January 13, 2010

VIA ECFS

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: NOTICE OF EX PARTE PRESENTATION
Docket Nos. 09-47, 09-51, 09-137

On behalf of Intelsat, Jay Yass, Nick Dowsett, Annette Purves and Susan Crandall met with staff of the Federal Communications Commission ("FCC") working on the preparation of the National Broadband Plan.

The attached presentation on satellite broadband issues formed the basis for discussion at the meeting. Pursuant to Section 1.1206(b)(2) of the Commission's rules, C.F.R. § 1.1206(b)(2), this *ex parte* notification and the attached presentation are being filed electronically for inclusion in the public record of the above-referenced proceedings.

Please feel free to contact me any questions.

Sincerely,

/s/ Susan H. Crandall

Susan H. Crandall

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Broadband Presentation to the FCC

Satellites and Telecom Enable

- **Rapid deployment of Broadband**
- **Leverage resources for affordability**
- **Creation of the “IT Economy” globally**
- **Cultural globalization**
- **Receive & create content**

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Introduction to Satellite-delivered Broadband Services

Satellite Technology Offers:

- **Cost-effective solutions providing affordable, immediate and ubiquitous broadband access in hard to reach areas and for mobility;**
- **Broadband access for consumers, businesses, and government users alike.**

Broadband Satellite Services Are:

- **Used by over 1 million Americans, as of 2Q 2009**
- **Available *now* virtually everywhere in the U.S. – the epitome of "shovel ready";**
- **Cost-effective to deploy – a huge comparative advantage in rural America.**

Types of Satellite Broadband

Three basic models of satellite-based broadband service

in the U.S.:

1. Consumer Satellite Broadband: **Delivery of broadband services directly to residential or commercial end-user utilizing FSS bands (Ku-, Ka-band);**
2. Middle Mile Connectivity: **Provision of FSS capacity in Ku- or Ka-band for trunk connectivity for Internet Service Provider, often with Wi-Fi or Wi-Max last-mile connectivity to end-user, or for backhaul connectivity;**
3. Mobile Broadband: **Broadband services directly to commercial or first responder end users utilizing mobile terminal in various satellite bands (L-band, S-band and Ku-band).**

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Cost-effective Access is Essential to National Broadband Plan

- **Any national broadband plan must address the hardest-to-reach Americans.**
  - **An estimated 11 million Americans live in areas that are not economically feasible to serve for the foreseeable future using a terrestrially-based wired or wireless technology.**
- Satellite-based networks are uniquely able to deliver broadband cost-effectively to end-users that are otherwise unserved by broadband
  - **This Includes rural and remote areas, coastal and inland waterways, and offshore territories**
  - **Only satellite systems can bring broadband on-the-move access to most ships, planes, and vehicles;**
- **The costs for satellite platforms to reach the millions of unserved U.S. consumers are dramatically less than the cost to extend terrestrial broadband services to remote areas.**
  - **Unlike other technologies, satellite economics are independent of population density – costs do not increase with the remoteness of the user.**
  - **Satellite broadband has no "middle mile" issues – traffic is aggregated at gateway earth stations co-located with high capacity backhaul facilities.**
  - **By some estimates, the terrestrial costs to reach the final 1 percent of the population is nearly 40 times the cost of reaching the initial 95 percent.**

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Who Uses Satellite Broadband?

- **Consumers/Small Home Office: Both residential and business consumers located in or traveling to unserved areas rely on satellite broadband for their communications needs, including email and data exchanges.**
- **Remote Critical Infrastructure Sites: Critical infrastructure providers, such as utilities and oil suppliers, need consistent and reliable access to fixed and mobile high-speed data from remote or rural locations.**
- **Emergency Responders: Fire, police, health and rescue professionals look to satellite broadband for their lifeline support of critical data and voice communications when outside of the reach of terrestrial fixed or wireless networks, whether because their community is not served or the terrestrial wired or wireless networks are unavailable.**
- **U.S. Government and Military Users: The U.S. Department of Defense relies increasingly on commercial fixed and mobile satellite applications for their advanced broadband solutions in the U.S. and around the world.**
- **Remote Retail Site: Many individual and national chain retail businesses count on satellite for broadband access for locations well outside the reach of terrestrial broadband services.**
- **Media: Satellite is the leading solution for media reporting, which increasingly relies on broadband for live audio and video streaming from any location, sometimes with little advance notice.**
- **Mobile Business and Consumer Functions: Mobile broadband is essential for mobile telemedicine vans, insurance adjusters, and delivery personnel operating in remote locations. . In addition, new satellite-based mobile broadband solutions are extending consumer expectations for connectivity on land vehicles, ships at sea and aircraft in flight.**

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Satellite Broadband Technical Capabilities

- **Today's satellite broadband has evolved to offer dramatically faster speeds that enable access to the most widely-used on-line applications;**
- **Current-generation satellite broadband offers speeds ranging up to 1.5 Mbps for residential subscribers and up to 5 Mbps for non-residential and commercial customers;**
- **Next generation satellite broadband will make a quantum leap by offering speeds up to 15 Mbps for residential subscribers and up to 50 Mbps for non-residential and commercial customers;**
- **Satellite broadband services to handheld units offer speeds ranging up to 500 kbps with full nation-wide and world-wide coverage;**
- **Satellite broadband services are available in nearly 100 percent of the U.S. geographic territory, including throughout the 48 contiguous states, the District of Columbia, Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands.**
  - **Satellite broadband subscribers are dispersed in 92 percent of U.S. zip codes, according to the FCC's 2007 Report on High-Speed Services for Internet Access.**

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Satellite Competitive Impact

- **Satellite services have historically spurred competition from terrestrial providers;**
- **By introducing broadband services to rural and remote communities, satellite can stimulate demand for higher-speed broadband applications and services;**
- **Historically, satellite brought video competition to cable companies, resulting in the accelerated deployment of cable broadband and DSL to retain customers. The current generation of satellite broadband services can do the same for broadband Internet markets;**
- **Will help maintain U.S. leadership in advanced, satellite-based fixed and mobile broadband communications services;**
- **Fostering satellite broadband will also help maintain U.S. leadership in advanced, satellite-based fixed and mobile broadband communications services and technological development.**

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Satellite Policy Requests

1. **Role of Satellite Broadband: Recognize satellite as an integral component of the national broadband plan. Satellite should be placed on a level playing field with other technologies, keeping consistent with Congress' intent to incorporate different technologies utilizing their comparative advantages. Satellite offers important capabilities and certain advantages over other technologies.**
2. **Spectrum: Protect existing satellite spectrum from interference so that satellite broadband services can fully develop, and make more spectrum available for satellite use to meet capacity demands.**
3. **Technical Flexibility: Ensure regulatory flexibility with regard to technical requirements for satellite networks so long as harmful interference is not produced. The FCC has revised/implemented its Part 25 rules to facilitate the expansion of satellite-delivered broadband services, including recent ESV and VMES rules. The FCC should continue this trend and adopt AMSS rules based on the ESV/VMES precedent.**
4. **No Satellite Auctions: Reiterate rejection of auctions for satellite spectrum (reaffirm Orbit Act, ACT decisions). Consistent, clear regulatory intentions for satellite spectrum are critical to securing long-term financing for satellite space infrastructure.**
5. **ITAR – Endorse efforts underway to reform satellite export controls, including legislation to return to the Executive Branch authority to set policy for satellite exports.**

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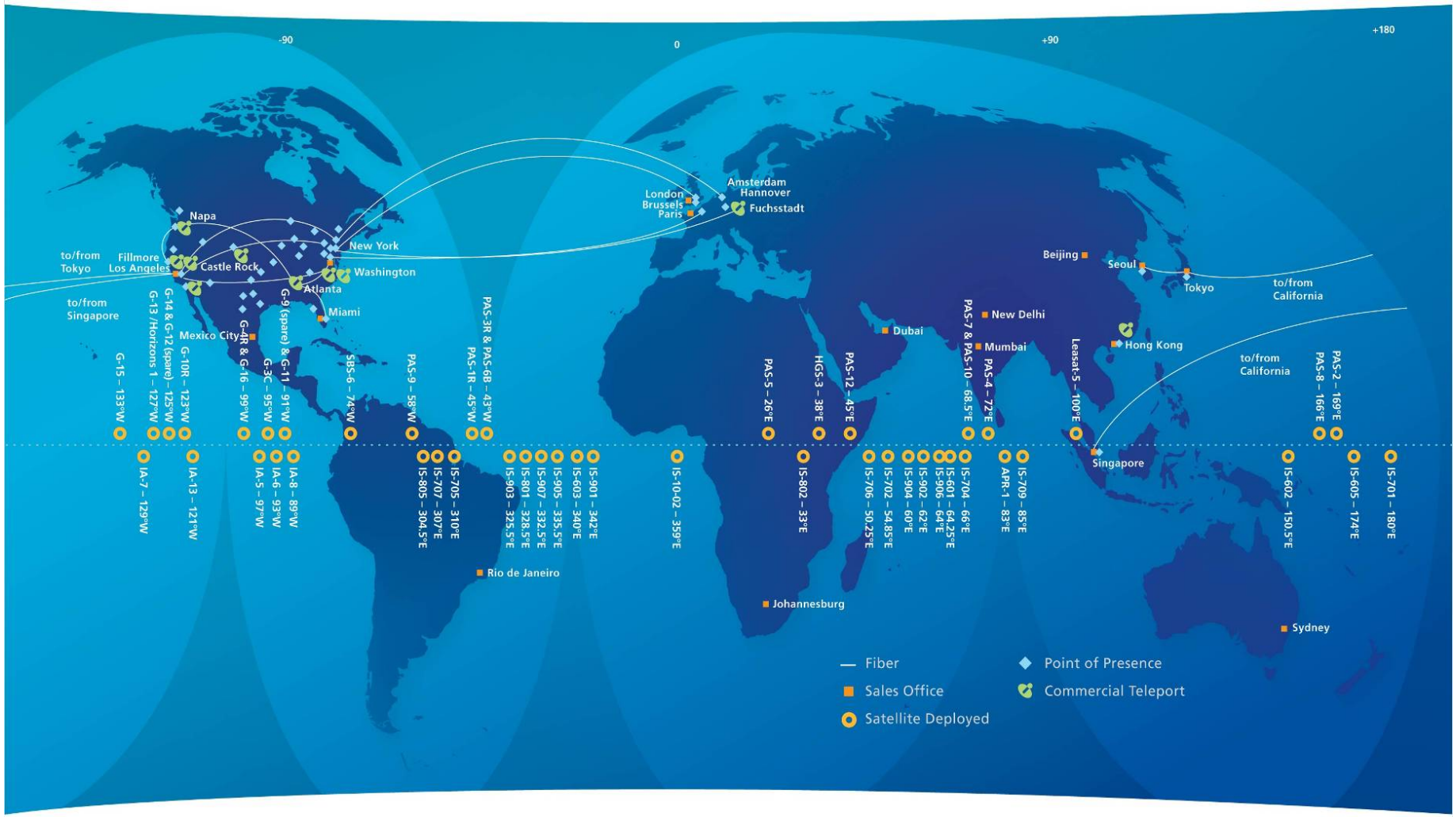
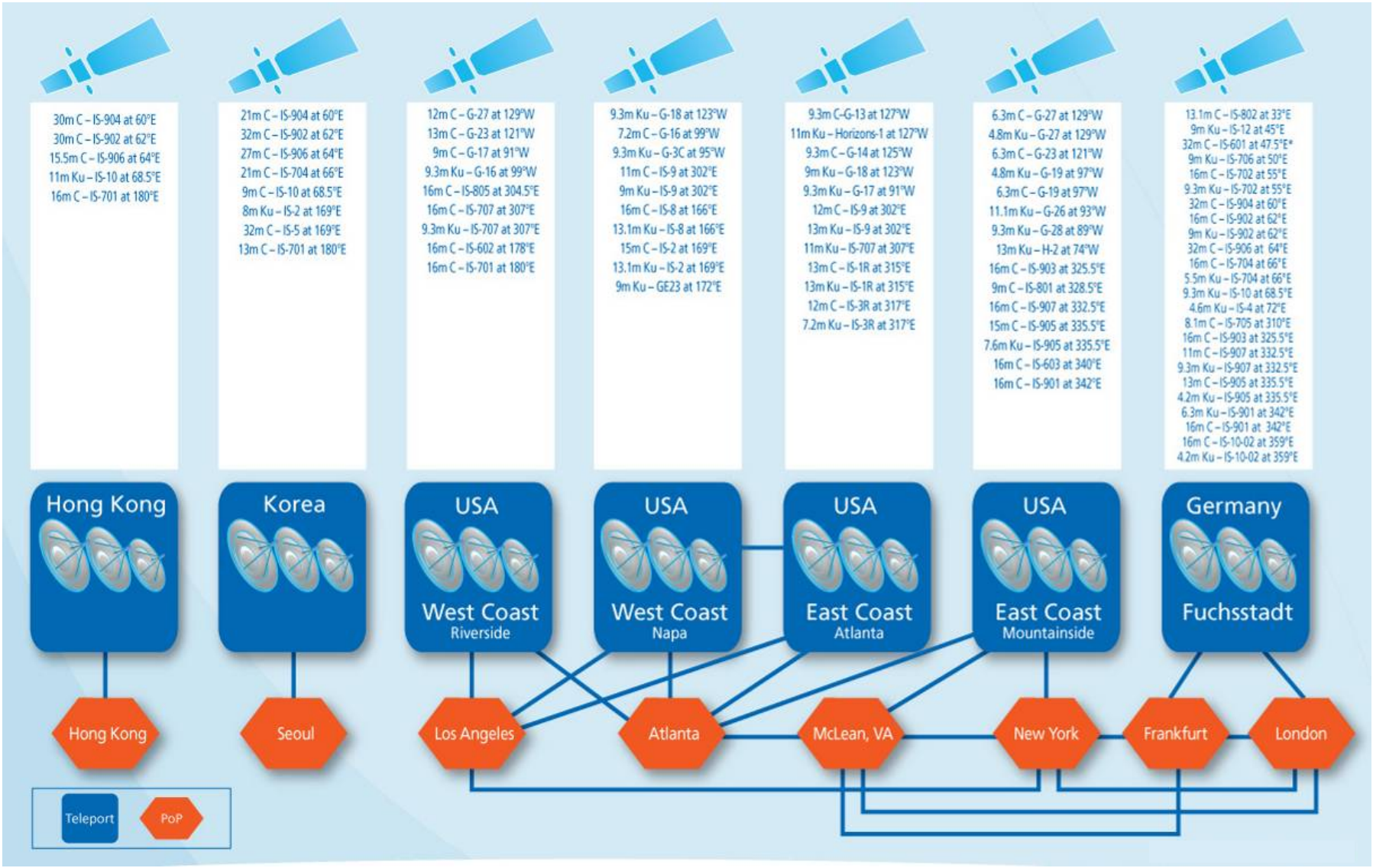
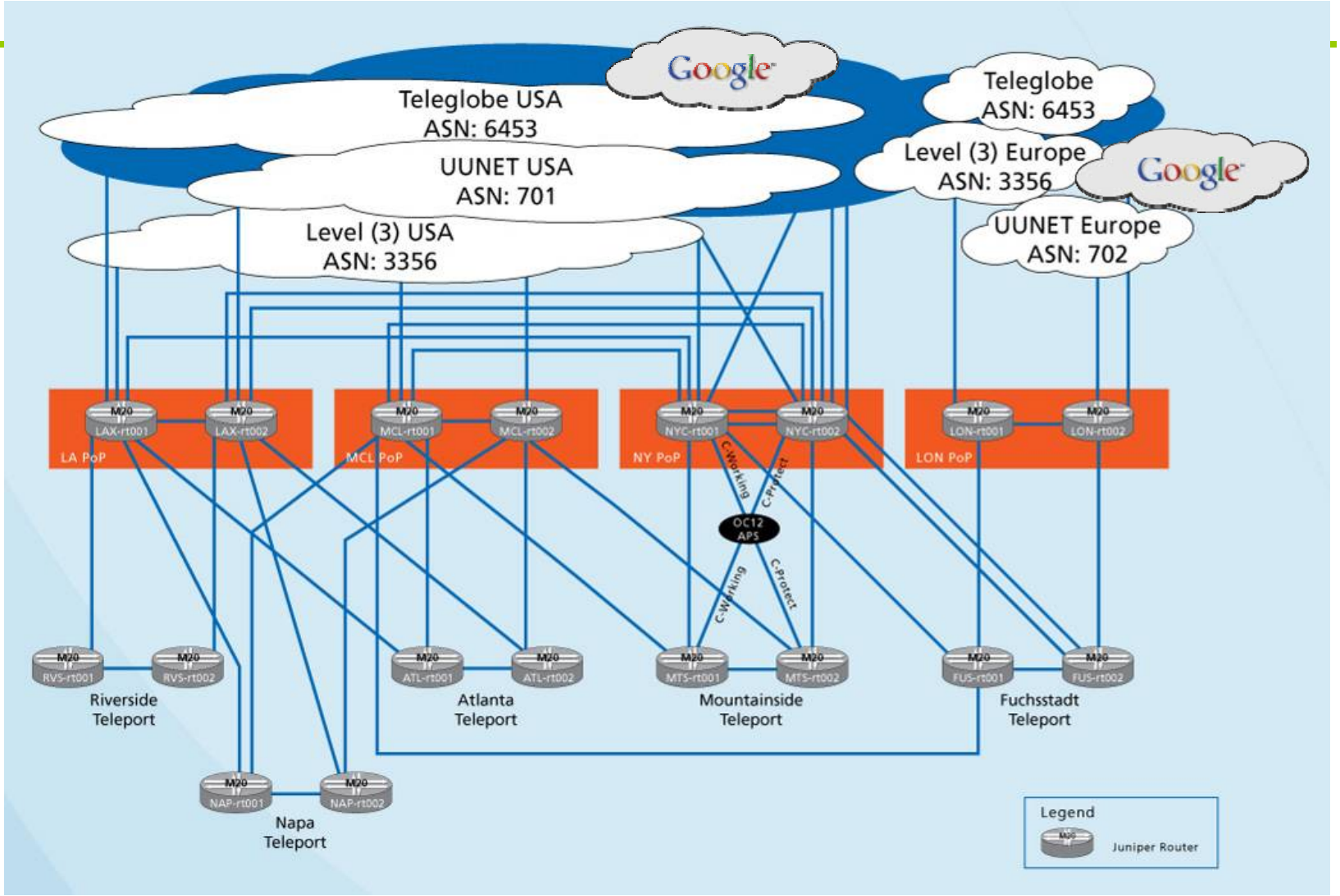
Infrastructure for Broadband Connectivity



GlobalConnex^{SM} (GXS) Network



GlobalConnex℠ Managed IP Network



Now peering with Google in London and New York

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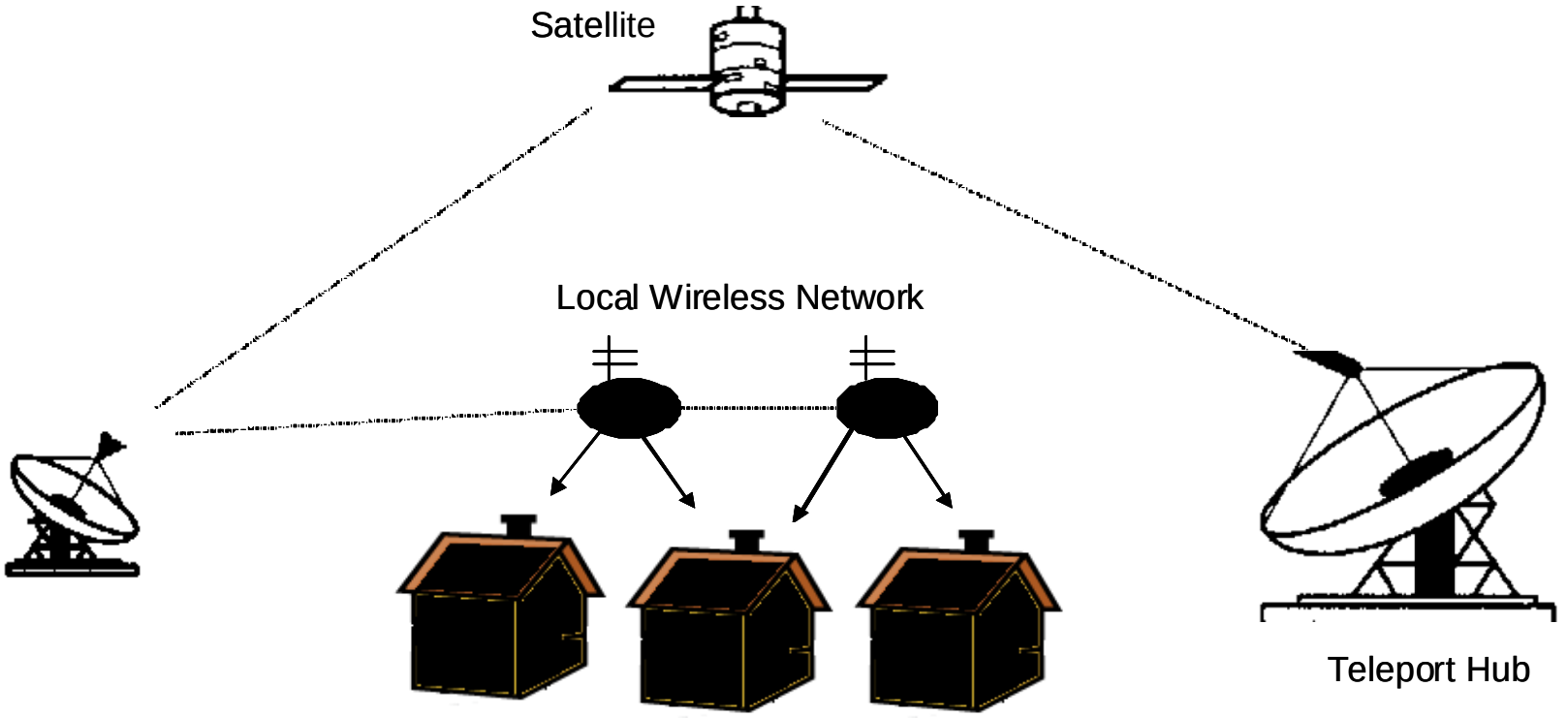
Satellite-fed Wimax



Satellite-fed Wimax At Work In Kinshasa

For schools, communities and business

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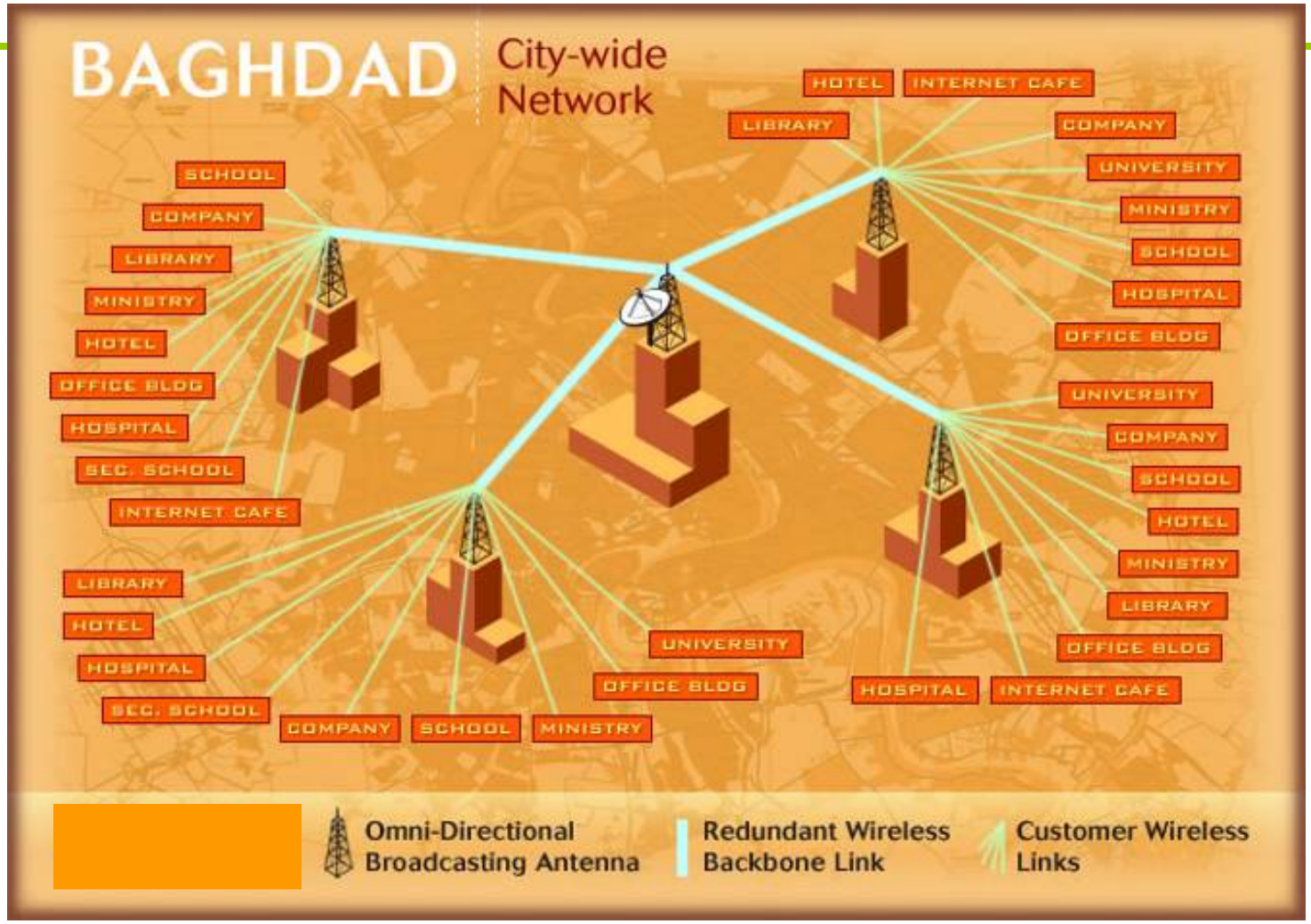
Satellite-fed Wimax At Work In Iraq

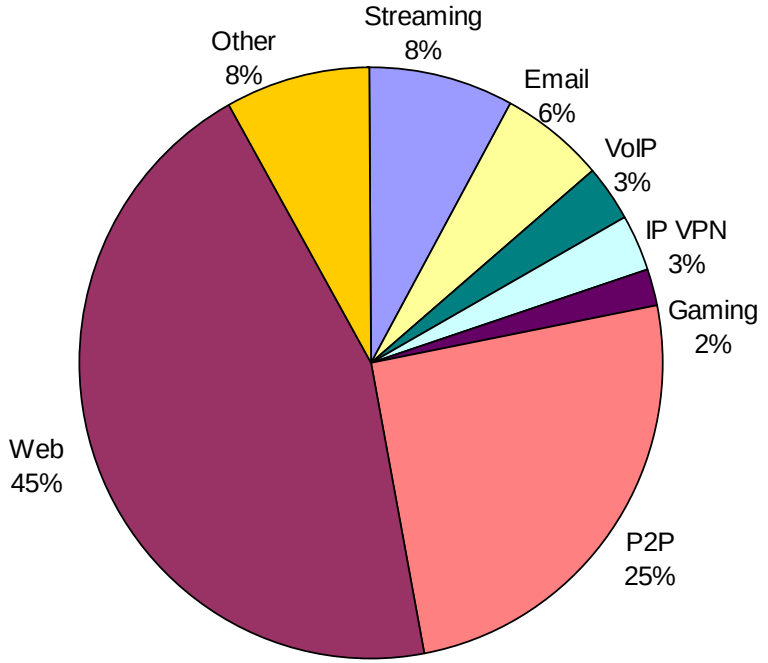


- **Serves 25 cities, using shared forward carrier, individual return carriers**
- **Intelsat's Fuchsstadt and Mountainside teleports**

Internet Traffic By Applications - 2008

Typical terrestrial IP network and satellite transmission latency

Trip	Round Trip Transmission
Trans Atlantic	120 milliseconds
Trans Pacific	190 milliseconds
North America	85 milliseconds
Intra-Europe	65 milliseconds
Satellite	560 milliseconds

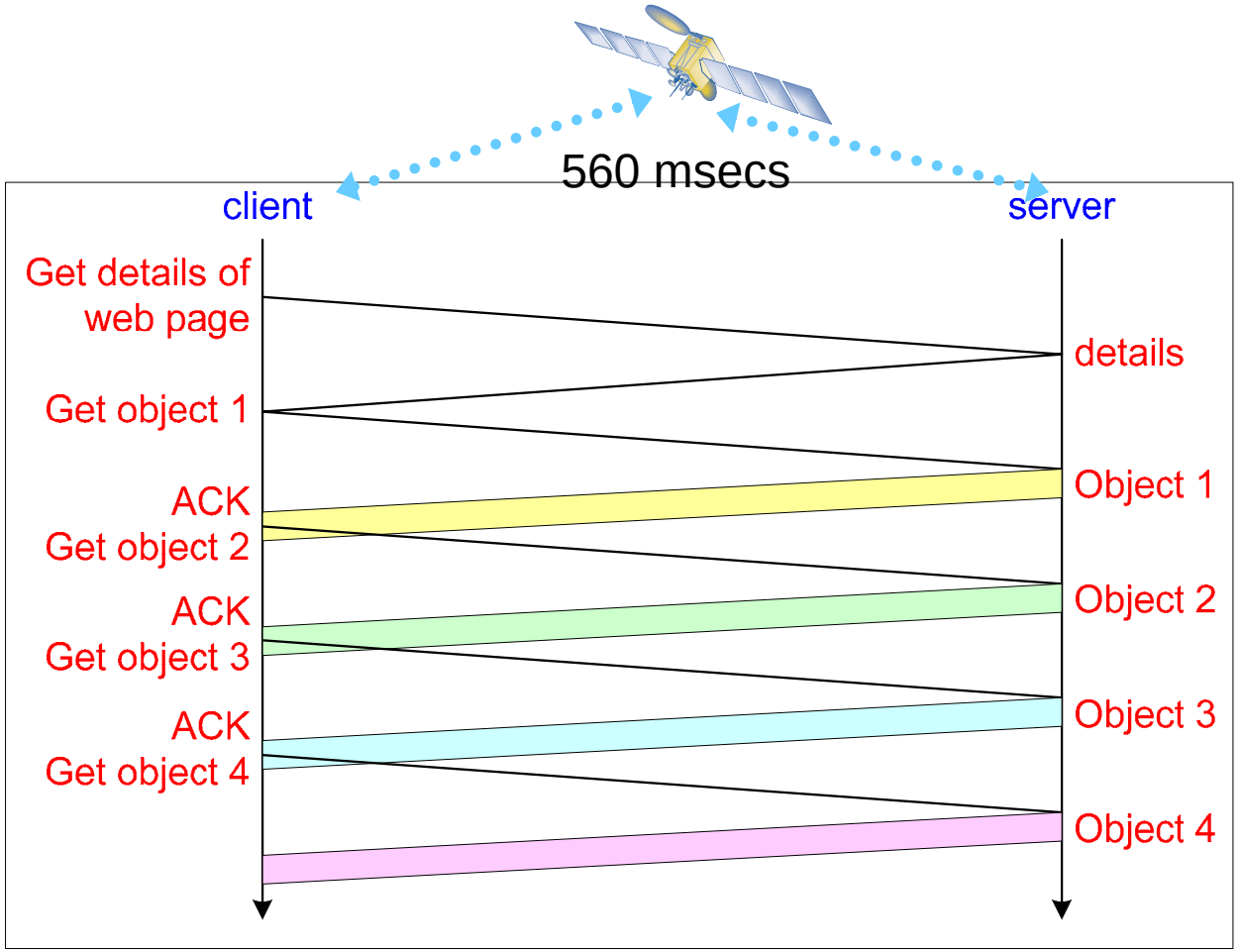


Source: TeleGeography Research

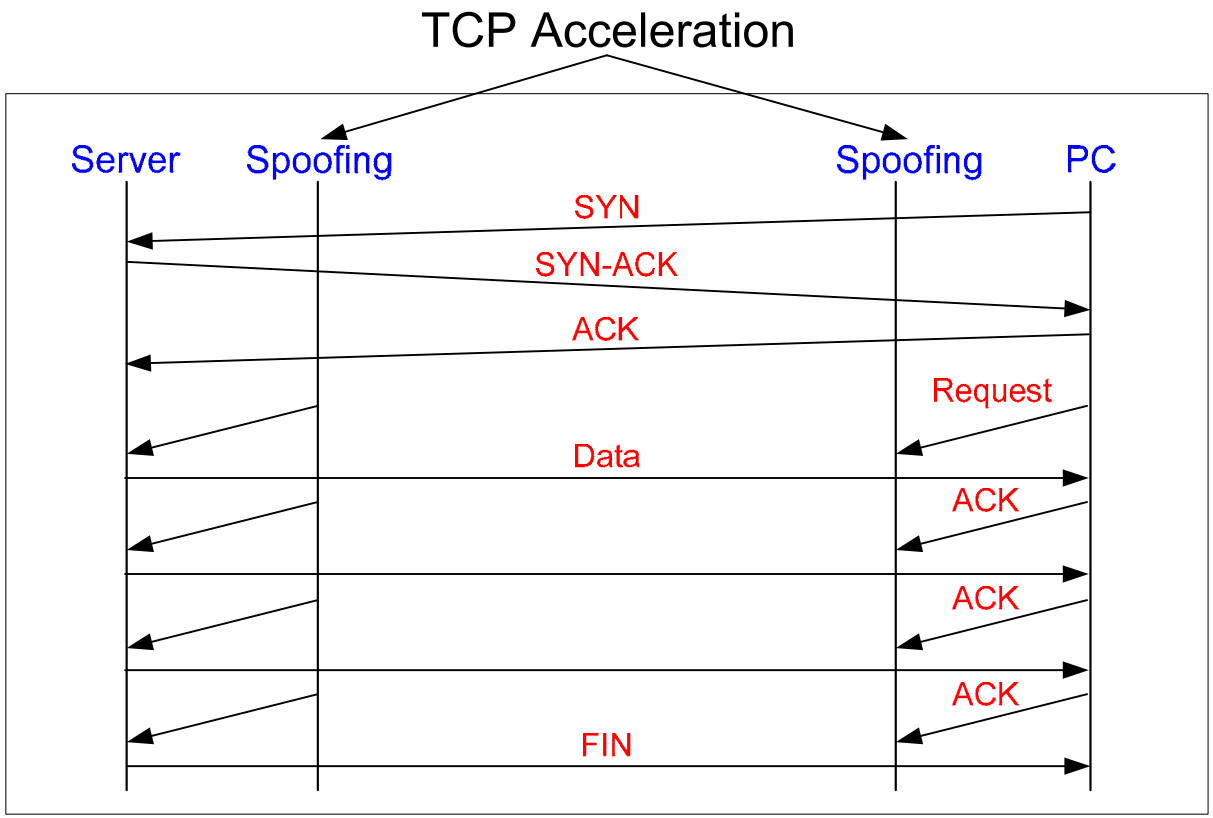
Half of Internet traffic is insensitive to latency

TCP/IP Transmission

- **TCP is optimised for short hops over low-loss cable or fibre**
- **Does not respond well to large latency, high bit error rates and asymmetric bandwidth**



Mitigating For Satellite Latency



- Spoofing or TCP acceleration improves browsing experience significantly
- Pre-fetch and fast-start improve performance still further
- Local DNS lookups

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Mitigating For Satellite Latency